W5YI

America's Oldest Ham Radio Newsletter

REPORT

Up to the minute news from the world of amateur radio, personal computing and emerging electronics. While no guarantee is made, information is from sources we believe to be reliable.

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In This Issue...

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FCC Rules on Restructuring Petitions for Reconsideration

On April 6th, the FCC released a 22-page *Order* that basically dismissing or denying all five *Petitions for Reconsideration,* and *Petitions for Rulemaking* of the Commission's December 30, 1999 Amateur Radio Service restructuring *Report and Order* (WT Docket 98-143.)

The FCC said that "Because the petitioners' suggested clarifications generally already considered and rejected, or because they are beyond the scope of the proceeding, we have not modified any Part 97 provisions based on the petitions."

The Commission did, however, make a few housekeeping Part 97 rule changes and amended the Part 13 (Commercial Radio Operator) rules to show that examination credit for the commercial radiotelegraph license would only be granted to Amateur Extra Class licensees who passed the old Element 1C (20 wpm) Morse code test prior to April 15, 2000.

Follows is a capsule version of the Memorandum Report and Order that was adopted by the Commissioners on March 27, 2001.

Background of the proceeding

In December 1999, the Commission substantially simplified and streamlined the Amateur Service structure by reducing

(a.) the number of license classes from six to three (Technician, General and Amateur Extra Class);

(b.) the number of written examinations from five to three and;

(c.) the emphasis on Morse code to the minimum (5-wpm) exam since that satisfies the international Radio Regulation which calls for manual telegraphy proficiency when operating on the HF ham bands.

The FCC stated that "Since those revisions became effective, over 30,000 individuals have qualified for Amateur Service licenses that authorize greater operating privileges." Still several radioamateurs and groups were not completely satisfied with the newly restructured Amateur Service.

Operator privileges of former Class A licensees

Fred A. Duran, Jr. W4NKI (Birmingham, AL) wanted former "Class A" licensees converted to the Advanced Class. Prior to 1951, there were three classes of amateur radio operator licenses, the Class A, B, and C operator licenses.

The Class A license was the highest class of operator license. The *1951 License Structure Decision* converted the Class A, B, and C operator licenses to the Advanced, General, and Conditional Class operator licenses and three new classes of amateur radio operator licenses were added: Novice, Technician and Amateur Extra Class operator license. No licensees were converted or grandfathered to Amateur Extra Class operators.

Mr. Duran asked that the FCC reconsider the

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Commission's 1951 decision not to convert Class A licensees to the Amateur Extra Class operator license so they may maintain their previously earned top amateur license status.

The FCC said that to upgrade from Advanced to Extra Class requires only passing (by answering correctly at least thirty-seven of fifty Element 4 questions) a written examination concerning the duties of an Amateur Extra Class operator licensee. "This is not an unreasonable requirement given that a person who passes the examination is authorized, among other things, to use an additional 175 kHz of spectrum. Nor do we believe it unreasonable to require a licensee who may have last tested in 1951 or earlier to pass the current applicable written examination element."

The Commission noted that " ..technology, amateur service rules, and operating practices, among other things, have changed substantially since 1951" adding that the FCC decision was influenced by the Amateur community's comments "...that current licensees not receive additional privileges without passing the required examination elements."

Technician Plus Class operator licensee database

In reducing the number of license classes to three, the FCC determined that there was no need to maintain a separate Technician Plus license class in its Amateur Service database because Technician Plus licensees already hold documentation stating that they have passed a five words-per-minute (wpm) telegraphy examination.

This documentation is usually either a Technician Class license issued before February 14, 1991, a *Certificate of Successful Completion of Examination* (CSCE) showing 5 wpm exam credit or a Technician Plus operator license issued by the Commission. Therefore, the FCC adopted its proposal to renew a Technician Plus Class operator license as a Technician Class operator license and not to issue any new Tech Plus licenses.

Millard H. Qualls K9DIY (Bloomington, MN), Alan J. Wormser N5LF (Alexandria, VA), Frederick V. Adsit NY2V (Syracuse, NY), Michael J. Dinelli N9BOR (Skokie, IL) and the American Radio Relay League all requested that the FCC "...reconsider the decision not to maintain a database of Technician Class operator licensees who have passed a five wpm telegraphy examination."

Their basic argument is "...that combining Technician Class licensees who have not passed a five wpm telegraphy examination with those that have will increase enforcement problems for the Commission since the FCC's Tech Plus database "...is the only means available for an Amateur Radio operator to determine if a station licensed to a Technician Class operator heard operating on the 10 meter amateur service band is authorized to use that band." The ARRL suggested that the FCC insert the letter "P" for Tech Plus operators and a "T" code for Technicians in the Amateur Service database.

The Commission said that the FCC database was modified to "...show a "P" (for Plus) in the field designated for a licensee's former class of license when a Technician Plus Class license is renewed..." and that "This capability results in the Amateur Service database being able to provide a *de facto* Technician Plus licensee database."

The FCC said they "...believe that these changes satisfy both the desire of the majority of commenters in this proceeding for a three-class license structure and the request of the petitioners that they be able to distinguish between Technician and Technician Plus Class licensees." The FCC declined to add a fourth (Tech Plus) license class to the Amateur Service database.

The Commission did not address how its database will distinguish current Technician licensees who subsequently earn Morse code (Element 1) credit. Those licensees have only a *Certificate of Completion of Examination* (CSCE), which will never be reflected in the database, even upon license renewal.

Telegraphy examination requirements

The Commission concluded that the public interest would best be served by reducing the telegraphy examination requirement to the minimum requirement that satisfies the international regulations. Accordingly, it reduced the number Morse code tests from three to one, a five wpm telegraphy examination.

In reaching that decision, the FCC noted that "...one of the fundamental purposes underlying our Part 97 rules is to accommodate the Amateur Radio operator's proven ability to contribute to the advancement of the radio art."

The Commission said that it found that "...an individual's increased Morse code proficiency is not necessarily indicative of that individual's ability to contribute to the advancement of the radio art, and concluded that such a license qualification rule did not further the purpose of the Amateur Service or continue to serve a regulatory purpose." Several amateurs objected to the elimination of telegraphy examination elements above five wpm.

Mr. Qualls pointed out that other countries have additional telegraphy speed requirements. The FCC responded by saying that "...assuming the requirements of other countries have any relevance..." they were "... not persuaded, however, that this decision is out of line".

The FCC also noted that "...subsequent to the adoption of the *Report and Order*, many other countries have reduced or are considering reducing their telegraphy examination requirements to five wpm, while looking toward eventual elimination of a mandatory telegraphy licensing requirement altogether."

Stating that twenty wpm "is only a barrier to unmotivated individuals," Mr. Wormser, Adsit and Dinelli (WAD)

wanted the 20 wpm telegraphy examination requirement reinstated for the Amateur Extra Class license.

The FCC repeated that the 20-wpm Morse proficiency examination as a federally mandated licensing requirement "...was not in furtherance of the purpose of the Amateur Service and it did not continue to serve a regulatory purpose." Furthermore, "...there does not appear to be any decline in the proper operation of amateur stations."

Telegraphy examination element credit

The Commission amended the Rules to provide that Novice Class operators who upgraded to Technician would not lose examination credit for the 5-wpm Morse exam they had passed. "Without the revision to Section 97.505, a Novice Class operator who advanced to the Technician Class but did not qualify for a General or Amateur Extra Class operator license would lose credit for the five wpm telegraphy exam after the expiration date (plus two years) shown on the Novice license because the Technician Class operator license does not specify a telegraphy examination element."

The ARRL states that "...lack of examination credit for former licensees who did not hold either a Novice or Technician Class operator license was a problem..." and that expired General, Advanced, or Amateur Extra Class operator licenses should receive telegraphy exam credit.

The Commission observed that "...ARRL's request amounts to a lifetime credit for any person who has passed an FCC-recognized five wpm telegraphy examination." It said that "...the issue of lifetime examination credit for persons whose licenses have lapsed was considered in WT Docket No. 95-57. In that proceeding, the Commission proposed to authorize Volunteer Examiners (VEs) to give examination element credit for any examination that the examinee previously passed. The comments in that proceeding opposed the proposal, however, and it was not adopted."

Therefore, the FCC ruled "...that persons who allow their amateur operator license to expire (and go beyond the grace period for renewal) will have to pass the requisite examinations if they later decide to obtain another amateur operator license." Furthermore, "...attending an examination session was not a hardship because the VEs provided abundant examination opportunities. ...most examinees who hold a non-renewable General, Advanced, or Amateur Extra Class operator license also are eligible for telegraphy examination credit based on their previous [Novice or Technician] license."

Number of questions on written examinations

In restructuring *Order*, the Commission revised the number of written examination elements in the amateur service license examination structure to better correlate with the number of license classes, and revised the number of questions on each written examination element. The FCC required that the Technician Class and General Class written examination elements consist of thirty-five questions each, and that the Amateur Extra Class written examination element consist of fifty technically oriented questions, including questions about administering Amateur Radio operator license examinations.

WAD requested that the FCC increase to fifty from thirty-five the number of questions in the Technician and General Class operator licenses, and to one hundred from fifty the number of questions for the Amateur Extra Class written examination element. The petitioners further state that "...the revision has reduced the proportion of technical questions on the written examination elements and reduced the cumulative number of questions needed for an applicant to obtain each license class."

The FCC said that it had already considered the 50-50-100 combination of questions which was not adopted. Instead it endorsed the number of questions as suggested by the ARRL and the National Conference of Volunteer Examiner Coordinators (NCVECs). "...we do not believe that the cumulative number of questions an applicant must answer correctly to obtain each license class is a particularly relevant measure of whether an applicant is qualified to be an Amateur Service licensee.

The Commission noted that the difficulty of an examination is determined by specific questions that appear on that examination, rather than simply the topics the examination covers. "We believe the same standard is applicable to the number of questions on the examination element — a greater number of questions does not in and of itself result in an examination that is more valid or meaningful."

Regarding WAD's apprehension about the material covered on the examinations, FCC said "...the Question Pool Committee (QPC) of the NCVECs has a better ability than we do to insure that the question pools reflect current technology [and that] ....concerns about written examination element issues should be addressed to the QPC...."

Repeating failed examination elements

WAD also wanted the FCC to prohibit examinees from repeating failed license examinations at the same examination session. The Commission said the rules applying to volunteer examiner (VE) administered license examinations "...are standards suggested by the Amateur Service community that balance the needs of VEs and examinees, and that ensure the integrity of the examination system. They are not intended to limit unreasonably the flexibility of VEs to accommodate examinees and therefore, do not specifically address many situations that occur in the administration of license examinations, such as whether administering VEs may allow an examinee an opportunity to re-take a failed examination element at the same examination session. To our knowledge, the VEs

accommodate examinees to the extent possible. Our understanding is that if a second version of the examination is available and the VEs have time to allow an examinee to take the second examination, generally they will allow an examinee a second chance to pass the examination."

The FCC stated they "...believe that decisions as to whether to allow an examinee a 'second chance' at the same examination session are well within the discretion of the VEs [and that] WAD's request is inconsistent with the purpose of the VE system."

The Commission also declined to "...impose standards of examination administration used by schools or certifying boards on administering VEs, because Amateur Service licenses are used primarily for avocation or personal purposes rather than as measures of professional or educational competency."

Restructuring Operating privileges and frequencies

On March 16, 2000, Dennis P. Kippa KW5G (Hawkins, TX) and David J. Hill W5XK (Mt. Pleasant, TX) filed a *Petition for Rulemaking* (RM-9867) seeking to reduce the frequency segments within the ham bands that can be used by stations to transmit CW (Morse code). The petition said "...because CW communications are archaic and have been abandoned by all Federal agencies except the Amateur Service, the Commission can no longer justify the broad reservation of the radio spectrum for CW only."

On Nov. 17, 2000, Joseph Speroni AH0A (Lawai, HI) filed a *Petition for Rulemaking* (RM-10018) seeking to increase the frequency privileges available to Novice Class licensees and Technician Plus Class licensees "...because the Novice Class operator license has been discontinued, frequency segments available to Novice Class licensees are less utilized and, therefore, these licensees have less opportunity to practice and develop their Morse code skills."

The FCC said it "...considered whether simplification of the license structure should be undertaken as part of a comprehensive restructuring of the licensing process and operating privileges, and concluded that simplification of the license structure was independent of such a restructuring."

Both petitions are "... repetitive of the ARRL's [previously denied] request that we restructure operating privileges..." FCC said, adding they "...have received no indication that the ongoing discussions concerning implementation of new and more modern communications technologies within the Amateur Service community have been completed, or that any consensus regarding implementation of new technologies emerged. Rather, the process appears to be continuing." Furthermore, "...the amateur service rules do not establish any "CW only" or "HF CW" segments of amateur service frequency bands. Rather, CW is the only emission type that may be transmitted on any frequency... ...we believe that we should allow the amateur service community to reach a consensus regarding a comprehensive restructuring of operating privileges and frequencies for all licensees before we expend our resources in a proceeding addressing this matter."

Examination credit as a result of Incentive Licensing

On Oct. 22, 2000, Gary R. Harrison, K0BC (Bolivar, MO) filed a *Petition for Rulemaking* on behalf of the *Quarter Century Wireless Association* (QCWA) requesting a rule amendment "...to require that VEs give examination credit for written examination Element 4 to an examinee who can show he or she held a Conditional, General or Advanced Class operator license before Nov. 22, 1968."

The petition states that "...on this date, Amateur Radio operators holding these classes of operator licenses lost significant frequency privileges as a result of the Commission's *Incentive Licensing* decision, and that no useful purpose is served by continuing to deny the privileges withdrawn from these operators. ...today there are, at most, a few thousand licensees still affected by this decision, which they perceive was unjust." If granted QCWA's request would permit these individuals to upgrade to the Amateur Extra Class operator license without passing the required Element 4 written examination.

Again the FCC said that to upgrade from a General or Advanced Class license to Amateur Extra Class only requires that an individual answer pass a fifty question written examination.

In dismissing the petition, FCC also noted that the Amateur community "...expressed the view that current licensees should not receive additional privileges without passing the required examination elements...."

Communicator Class petition dismissed

Two petitions were filed by Stewart R. Teaze N0MHS (Murrieta, GA) on March 17 and 20, 2000 asking that the FCC add a new Communicator Class operator license to the Amateur Service structure "... to further encourage more young individuals to enter the amateur service."

The FCC treated them as *Petitions for Reconsideration* in that both petitions request amendment of the Amateur Service license structure. Because these petitions were filed later than thirty days after the date of the restructuring *Order*, the Commission dismissed them as being untimely.

The FCC noted, however, that the Teaze request "appears to be moot" in light of the recently announced ARRL Education Project to provide a turnkey Amateur Radio curriculum at the middle school level to attract young people into the hobby.

"While we applaud the amateur service community's commitment to involve more young people in Amateur

Radio, we also do not believe this goal is advanced by adding additional license classes to the amateur service license structure," FCC said. "Rather, we believe a streamlined and simplified license structure in which operating privileges are related to examination requirements will encourage individuals to join the Amateur Service."

Amending sequential call sign system denied

On Feb. 7, 2000, Eric R. Wolfe WB3IHQ (Lebanon, PA) filed a *Petition for Rulemaking* (RM-9831) seeking "...to repeal the current system of call sign districts and designators used in the sequential call sign system." This designator is a number (0-9) or a letter and number combination from an alphabetized regional-group list based on the operator's license class and mailing address.

In place of the current district designators, Wolfe proposed that "...all future amateur radio licenses in a sequential numbering system of zero to nine without regard to the location of the licensee's primary physical residential address for station location."

The Commission denied the request primarily because modifying the sequential call sign system would be costly "...without any clear regulatory purpose being served." The FCC added that "...the present system is well understood by the Amateur Service community and there does not appear to be any regulatory or operating advantage to changing the sequential call sign system...."

Furthermore, "...a licensee who prefers another call sign can request a call sign of his or her choice using the vanity call sign system, thereby negating the standards incorporated in the sequential call sign system."

Non-substantive rule changes

The FCC also made a few minor rule changes to adapt them to the newly restructured Amateur Service. These included eliminating the indicator "AA" in the station identification procedure since this indicator is now unnecessary because the FCC is no longer issuing any new Advanced Class operator licenses.

In addition, the FCC revised two Part 13 Commercial Radio Operator rules so that the elimination of the twenty wpm telegraphy examination element from the Amateur Service does not inadvertently result in a reduction in telegraphy examination requirements for commercial radiotelegraph licenses. "Absent this amendment, an individual who holds an Amateur Extra Class operator license by virtue of passing a 5 wpm telegraphy examination could inadvertently receive credit for the 16 and 20 wpm commercial telegraph examination elements."

The VE/VEC expense reimbursement rules were also amended to conform it with Section 403 of the *Telecommunications Act of 1996* which "...deleted the reference to the total amount of allowable cost reimbursement per examinee. The statute now reads: "With respect to the acceptance of voluntary uncompensated services for the preparation, processing, or administration of examinations for amateur station operator licenses pursuant to subparagraph (A) of this paragraph, individuals, or organizations which provide or coordinate such authorized volunteer services may recover from examinees reimbursement for out-of-pocket costs."

This change removed the dollar limitation on the total amount of allowable cost reimbursement that could be recovered from an examinee. VEs and VECs may now be reimbursed in full for out-of-pocket expenses incurred in preparing, processing, administering, or coordinating an examination for an amateur operator license.

The new Part 13 and 97 Rules

PART 13 - COMMERCIAL RADIO OPERATORS

§ 13.9 Eligibility and application for new license or endorsement.

§ 13.13 Application for a renewed or modified license.

* * * * *

(d) ***

(2) An expired or unexpired FCC-issued Amateur Extra Class operator license grant granted before April 15, 2000: Telegraphy Elements 1 and 2.

PART 97 - AMATEUR RADIO SERVICE

§ 97.3 Definitions.

(a) * * *

(35) *Question set.* A series of examination questions on a given examination selected from the question pool.

* * * * *

(b) The definitions of technical symbols used in this part are:

* * * * *

§ 97.119 Station identification.

* * * * *

(f) * * *

(2) For a control operator who has requested a license modification from Novice, Technician, or Technician Plus Class to General Class: AG;

(3) For a control operator who has requested a license modification from Novice, Technician, Technician Plus, General, or Advanced Class to Amateur Extra Class: AE.

* * * * *

§ 97.527 Reimbursement for expenses.

VEs and VECs may be reimbursed by examinees for out-of-pocket expenses incurred in preparing, processing, administering, or coordinating an examination for an amateur operator license.

CUTTING EDGE TECHNOLOGY

The RL500 robotic lawnmower (Robomower) takes away a real monotonous chore. It works by placing a thin wire perimeter around all the lawn areas you want to cut. The grass grows over the wire fairly quickly so only the Robomower will know it's there. Areas with plantings can be surrounded in a perimeter island to inform the RL500 where not to cut. Any objects 6-inches or higher will be avoided using Robomower's bumper sensors.

The Ceiva picture frame is the world's first Internet-connected digital picture frame. Anyone you want can send photos to your Ceiva frame from just about anywhere. You don't even need a computer to receive them.

Simply upload your digital pictures to ceiva.com and send them to as many Ceiva picture frames as you want. The Ceiva frame automatically updates and displays your new photos (a single picture or in slide show fashion) everyday. Your stored pictures remain on the Ceiva even if the power is disconnected. You determine which people have permission to send you pictures ...you can even delete unwanted photos from the frame.

The wooden (black) easel-back picture frame is approximately 8" x 10" with a large, high resolution (640x480 pixel VGA) LCD 5"x7"screen for easy viewing.

The Ceiva digital picture frame connects to <www.ceiva.com> automatically to retrieve your pictures daily after midnight (or whenever you push a button.) The telephone call (local connection in most cities at $5 per month) lasts about 6-7 minutes for a 20 picture download. Cost: $199.99.

EMERGING COMMUNICATIONS

A survey released by **Canadian market research firm, CF Group found that support for cellphone silencers – electronic jammers** – depends on what type of location might be protected from the rings of a mobile phone.

Earlier this month, Canada's telecom regulator, *Industry Canada* announced it was seeking public comment on the concept of expanding access to the phone-jamming technology.

Many of those surveyed (68%) were in favor of using jamming technology in places of worship and in movie theaters. About 65% also support jamming in public libraries, but the percentage dropped when asked about hospitals, airplanes and art galleries, for all of which just 57% favored jamming.

The narrowest margin for the "no" side came when asked about jamming in restaurants, which 53% oppose and 42% support. *[Reported by Newsbytes]*

E-mail use in the United Kingdom has dropped 5% this year because of the popularity of SMS (short text messaging) on mobile phones which, due to their screen size, can only handle short notes. The fall was 10% among 18 to 24 year olds.

Sony Computer Science Laboratories, Inc has prototyped its first software radio. The SDR (Software-Defined Radio) supports all frequencies from 500MHz to 9GHz. Modulation, demodulation and other basic radio functions are implemented in software, which can be changed to allow a single unit to support multiple radio protocols. The radio can handle existing mobile telephone technology as well as the new emerging mobile telecommunications.

SDR research and development are in higher gear in Asia, Australia and Europe than in the U.S. because of the continuing controversy over regulatory controls on the technology.

The UK's Regulatory Agency (RA) has a new policy concerning domestic interference. Under the new system, a home owner will be charged £50 (about $75) if, following an investigation, the RA finds that the interference is not due to any illegal use of radio or faulty electrical equipment, but is due to a problem with the complainant's own TV or home entertainment equipment. No charge will be made if the interference is found to be located outside the complainers premises.

COMPUTER INFO

Cookies are pieces of ASCII text information sent to you from another Web server and stored in the user's computer with or without your consent. They contain information about you gathered from your PC. A good feature is that they allow a website to be customized or personalized to your needs.

Basically cookies make use of user-specific information transmitted back and forth from a user's computer to a Website server so that the information is available for later access. A remote site gains access to its implanted cookies whenever the user establishes a connection to that site.

A normal text-based cookie cannot harm your computer or spread any viruses since it is "non-executable." The bad news is not what harm cookies can do to your computer, but what private information they store, what they pass on to outlying servers ...and what they do with it.

Some sites are members of ad cooperatives (such as Doubleclick, Focalink, Globaltrack, and ADSmart) that compile information about you from your cookies so that they can target advertising to you.

Unwanted (or undesirable) cookies can be deleted. For example, (on Windows 95, 98 or NT 4.0)

1. Start your Internet Microsoft Explorer browser - Version 4 or 5.

2. On the **Tools** menu, click **Internet Options** and then click the **General** (the default tab).

3. In the **Temporary Internet Files** section (middle panel), Click **Delete Files.** Click **OK.** This gets rid of the temporary files cached on your PC.

4. Then in the same **Temporary Internet Files** section, Click **Settings.** Click **View** Files..

5. Cookie files have the following format: Cookie: username@websitename.com.

6. To get rid of a cookie, in the **Name** column highlight (click on) a cookie file and then press **Delete.** When prompted to confirm that you want to delete the file, click **Yes.** It will be transferred to your Recycle Bin.

(As a general rule, don't delete a cookie if it is from a site you regularly use. If you do not feel comfortable deleting files on your PC, you should at least see which websites are storing stuff on your computer.)

7. Repeat this step for each unwanted cookie file.

Microsoft has a good cookie writeup at: <http://www.microsoft.com/info-/cookies.htm> and <http://update.msn-.com/profilemgmt/DellInstructions.asp>.

INTERNET NEWS

NBC joins the Walt Disney Co. and News Corp in scaling back its In-

ternet presence. General Electric's NBC has purchased the shares it does not already own of its spin-off <www.NBCi-.com> Internet subsidiary. NBCi was formed in 1999 when NBC merged some of its Internet assets with XOOM.com and Snap.com. It will now close NBCi and fold the money-losing subsidiary into its existing NBC.com operation. NBC paid $2.19 per share for the remaining NBCi stock. In January 2000, investors valued NBCi stock at more than $100 per share. Sharp declines in the Internet advertising market made it difficult for NBCi to remain competitive. It has now given up on the idea of becoming a major Internet portal.

Web-based home delivery of groceries is becoming as rare as the home delivery by milkmen and breadmen of decades ago. The online delivery model is seen as unworkable by many experts and most grocery outlets have given up on the idea..

The CEO and Chairman of cash-starved Internet grocer Webvan (Foster City, CA) has now resigned from the company. George T. Shaheen was previously the chief executive and managing partner of multi-billion dollar Andersen Consulting now called Accenture. He replaced Louis H. Borders (of bookstore fame), Webvan's founder.

Webvan uses a fleet of refrigerated delivery trucks to provide same or next-day delivery of items ordered online. The cost of picking, packing and delivering most orders wiped out any profit.

Supposedly the net grocery business was targeted at $8 billion within 4 years. Webvan went public in November 1999 at $26 per share and traded as high as $34 on its first day of trading.

Last year, Webvan managed to lose $450 million on $175 million in sales.. On April 12, shares closed at 12 cents, down 98% from its 12 month high and Webvan is in the process of being delisted from Nasdaq. See: <www.webvan.com>

WASHINGTON WHISPERS

The collision between a U.S. surveillance plane and a Chinese fighter jet intercepting it on March 31, 2001, brought American spy plane activities into the world spotlight.

The Misawa Air Base (Japan) based U.S. surveillance plane, an EP-3E ARIES II (Airborne Reconnaissance Integrated Electronic System II), was on a routine intelligence-gathering mission over the South China Sea when the collision occurred.

The Navy has 11 such EP-3 aircraft deployed in two squadrons. The squadron patch proclaims its crew as "World Watchers." Other EP-3E crews have maintained a continuous presence in the Persian Gulf for nearly ten years. Britain, France, Germany and Israel also fly sophisticated electronic reconnaissance aircraft.

The EP-3E can be compared to a communications vacuum cleaner that monitors all sorts of electronic communications, including telephone calls, e-mails, ship-to-shore relays, faxes and satellite transmissions. The plane's mission is to eavesdrop on certain areas and send the information back to U.S. military commanders.

The EP-3E is equipped with a multitude of sensors, receivers and dish antennas to capture electronic signals. There are two sections to the plane. The bottom portion houses the antennas. The 24 person crew – seven officers and 17 enlisted airmen – are in the top compartment.

These unarmed turboprop planes, updated into EP-3E ARIES II aircraft during the last five years, are converted Lockheed-Martin P-3Cs. They have a range of 3,000 miles and can fly 12-hour missions at up to 400 mph.

AMATEUR RADIO

Effective April 1, 2001, **Amateur Radio operators in the United Kingdom may use the Amateur Radio packet radio network for the purposes of non-commercial advertising** to promote the sale of, or to solicit the purchase of, amateur radio or computer related equipment. Each advertisement must not contain more than five separate items and only one such announcement may be placed within a 28 day period.

Novice operators will also being permitted to use all modes in the 70-cm band between 430 and 432 MHz.

Due to restrictions caused by the Foot and Mouth (animal disease) crisis, the Radio Society of Great Britain (RSGB) has canceled a number of "portable" Amateur Radio contests.

Two radioamateurs are now on board the International Space Station (ISS) as part of Expedition Crew No. 2. They are Commander Yury Usachev, UA9AD, and U.S. astronaut Susan Helms, KC7NHZ.

ARISS, (Amateur Radio on the International Space Station) is a program that offers an opportunity for students to experience the excitement of Amateur Radio by talking directly with crew members of the ISS.

Several students have been able to ask questions during scheduled school contacts. Although not a radioamateur, Astronaut Jim Voss on the ISS fielded questions from the Woodford Middle School in Versailles, Kentucky on April 9th.

While there have not been a lot of random Amateur Radio contacts, there have been some. The worldwide downlink frequency is : 145.80 MHz (Worldwide). The voice uplink: 144.49. Packet uplink: 145.99; downlink is 145.80. (There have been no packet QSOs due to a call sign glitch.)

Powerline communications (PLC), which will use frequencies between 9 kHz and 30 MHz, is being implemented in Germany to allow "last mile" high-speed broadband communications in residences via existing electric distribution lines. It should be in operation by July.

Ham operators and shortwave broadcasters are concerned that powerline communications will be a new and unwelcome source of potential RF interference.

Electricity supply companies worldwide are extremely interested in powerline communications. By delivering high-speed Internet connections through residential electrical wall sockets, some power utilities hope to break the phone companies' grip on Internet access while also offsetting recent losses due to shrinking retail power margins.

In the United States, **a firm by the name of Intellon (based in Ocala, FL) also is working on high speed home powerline networking.** They have trade marked their "No New Wires™" slogan.

Their PowerPacket® multiple carrier technology delivers high-speed network access through existing home powerlines. It allows virtually any electronic device in the home to be connected to another, giving homeowners access to various information, data, entertainment, and security applications at up to 14Mbps.

You simply plug PowerPacket ready devices into any AC power outlet in the home. Instantly, the power outlet becomes a high-speed link for sharing information from PC's, appliances, and other devices inside the home, to Internet access

and broadband services outside the home.

Their system operates in the 4.3 MHz to 20.9 MHz frequency band under FCC Part 15 rules. Eliminated is the cost of installing wires to support the so-called "last mile." Intellon has just opened a new facility in Santa Clara, CA. Check out: <www.intellon.com>.

Intellon's PowerPacket technology has been selected by the HomePlug Powerline Alliance as the basis for its industry specification for powerline home networking. Founded in March 2000 by 13 major companies, HomePlug is a not-for-profit corporation formed to promote high speed home powerline networking products and services.

HomePlug is in the process of conducting product field tests in more than 500 consumer households. Testing of the standard will take place primarily in the United States and Canada with smaller tests being conducted in Japan, Korea, Taiwan, and several European countries.

They say their HomePlug specification will not interfere with any telephone or RF networks. See: <www.homeplug.org>.

No-Code International, an organization of radioamateurs from over 50 countries around the world, has submitted their preliminary views to IWG-6. This is the FCC's Informal Working Group considering Amateur matters in preparation for WRC-2003.

Agenda Item 1.7 suggests a possible revision of Article S25, the international Amateur Service rules.

The *International Amateur Radio Union* (IARU) input to WP-8A resulted in a *Draft New Recommendation* (DNR) to establish minimum qualifications for amateur operators that is currently circulating to administrations for approval, having the potential for incorporation by reference into the radio regulations.

NCI believes "...that the DNR, in ANY form, is totally unnecessary and undesirable. It is our view that, with respect to the issues of Morse testing requirements and 'qualifications' in S25 of the ITU Radio Regulations, the necessary, and fully sufficient, modernizing remedy is to simply suppress (delete) S25.5."

"The existing S25.6, which states, 'Administrations shall take such measures as they judge necessary to verify the qualifications of any person wishing to operate the apparatus of an amateur station.' has served both the international regulatory community and the Amateur Radio Service well for decades, and No Code International sees no justification for complicating the ITU Radio Regulations in ways which infringe upon the sovereignty and good judgment of national administrations in this matter."

It is NCI's preliminary view "That the United States NOT support the IARU initiative in this matter, regardless of whether the DNR is to be 'Incorporated by Reference' into the ITU Radio Regulations as "mandatory," or whether it is simply offered as a reference to non-mandatory 'good advice.' The rational for this view is threefold:"

"1. The existing language of S25.6 has served both the international regulatory community and the Amateur Radio Service well for decades. The DNR appears to seek to solve a non-existent problem. Therefore, it serves no legitimate regulatory purpose and should not included as an unnecessarily prescriptive, restrictive, and complicating part of the ITU Radio Regulations."

"2. The DNR, particularly if incorporated by reference as a (treaty-status) mandatory requirement, unnecessarily infringes on the prerogative of sovereign national administrations to regulate the Amateur Radio Service within their sovereign territories as they see fit and to exercise their good judgment as to local conditions and requirements."

"3. Even if the DNR were merely referenced as a non-mandatory 'good advice' recommendation, it is likely that many administrations would still feel a certain sense of "obligation" to follow it, causing those national administrations to unnecessarily spend resources to alter their national regulations and testing procedures, causing undesirable turmoil and confusion to their licensees and prospective licensees in the process."

FCC Amateur Radio Enforcement

Corey J. Ehlen (Tulsa, OK) has been cited by the FCC for operating an unlicensed Amateur Radio station on Tulsa's 146.34/94 MHz. WA5VLT repeater using the currently unassigned call sign, KF5IE. Ehlen's Advanced Class license (and KF5IE call sign) expired in 1996.

Robert M. Carper (Salt Lake City, UT) was also warned about his alleged unlicensed two-meter activity. Further operation will subject him to a fine, imprisonment and equipment seizure. He is to contact the FCC.

Charles Cunningham, Jr. K4OTV (Raleigh, NC) has been cautioned that he is not to use his former vacated call sign, N4BZX since he was assigned the vanity call sign K4OTV in 1996.

Lazaro P. Duarte KG4KXE (Memphis, TN) has been required to respond to charges that he has been operating on the 15-meter band (21.310 and 21.380 MHz.) "...frequencies not assigned to you under your [Technician Class] license." He reportedly used the call signs WP4JBG, KF4ZFL and a Cuban call sign CO8AR. On Oct. 17, 2000, Duarte's KF4WSM license was canceled for failing to appear for re-examination but he was relicensed last December.

Glenn A. Andersen WB5TUF (Richmond, TX) has been asked by the FCC to respond within 20 days to charges that his (Atlanta, GA area) repeater uses "...dead carriers, rebroadcasts and ...deliberate interference to get a user off the repeater."

Andres L. Hernandez KP4ANG (Aguadilla, PR) has been cited for "...deliberately interfering with other Amateur operators on 24.935 and 24.937 MHz" and for "...making one way digital trtansmissions on those frequencies." The FCC said it also had received complaints of 40-meter interference from his station. Additional incidents will result in a fine and revocation proceedings. He was also asked to update his address in the FCC database records.

Roger E. Horton K8CIX (Bakersfield, CA) and **James C. Purviance KC7VUN (Puyallup, WA)** were both also asked to update their address in the FCC records.

David C. Mohre KA8OFE (Blakeslee, OH) was asked by the FCC to respond to information that he is operating a repeater on 146.820 MHz in Williams County, OH that is not identifying as required by the rules.

Sonya R. Payne KG4LGC (Altoona, AL) is being required to retake the General Class Element 1, 2 and 3 licen se exams; **James A. Ruppe N4XCV (Rutherfordton, NC)** must retake the Technician Plus Class Element 1 and 2 license exams; and **Aaron H. Goldberg KBØTUJ (Burnsville, MN)** must retake the Technician Class (Element 2) exam.

All of the above examinations must be completed on or before May 25th.

Robert G. Unsworth W6MTJ (Sonora, CA) must respond within 20 days to a complaint concerning his February 23rd operation on 160 meters.

COMMENTS CLOSE ON SOFTWARE-DEFINED RADIO RULES

"We believe that a major benefit of software-defined radios will be the ability of manufacturers to produce radios intended to be programmed by third parties with unique or specialized application software." From 25-page NPRM, ET Docket No. 00-47 "Authorization and Use of Software-Defined Radios"

Since the beginning of radio, receiver designs were based on two inventions, the regenerative receiver and the super heterodyne receiver. But DSP (digital signal processing) technology has now advanced to the point where radio receivers can be built largely around the capabilities of DSP itself, allowing manufacturers to change the characteristics of the receiver with a simple change of software. Digital signal processing dramatically improves the sensitivity of a receiving unit by reducing noise.

Software-defined radio (SDR) is a new generation of technology that would allow communications equipment to adapt to multiple standards and add service features without changes to the equipment's hardware. SDR has enormous potential to make more efficient use of the existing electromagnetic spectrum, since SDR devices can be quickly reprogrammed to transmit and receive on any frequency using virtually any transmission format.

Traditionally, a radio transceiver is approved by the FCC based on a specific set of technical parameters, including the operating frequencies, output power, and types of radio frequency emissions. The current rules do not prohibit software programmable radios. However, they require a new approval and a new identification number on a permanently affixed label when changes to the frequency, power or type of modulation are made. If operating parameters are changed after the transmitter has been approved by the FCC, the equipment must again go through the equipment authorization process. These rules were developed to address radio characteristics defined by hardware.

The operating parameters in a software-defined radio can be changed in the field by modifying its software. At present, such changes violate the terms of the transmitter's equipment authorization by causing it to operate on frequencies or in modes that were not approved as part of the initial equipment authorization.

In March 2000, the Commission issued a *Notice of Inquiry* (NOI) seeking additional information on software-defined radios. It wanted to know about 1) the current state of SDR technology, 2) if SDR could improve operation between radio services, 3) if SDR could improve spectrum efficiency and sharing, and 4) any needed modifications to their equipment approval process.

The comments agreed that software-defined radios could have multi-band, multi-mode and multi-function capabilities that are not present in current radios. It was agreed that a number of issues still need to be resolved, such as protocols, channel establishment procedures, authentication and fraud detection, before roaming between networks that support different standards is possible.

SDR Notice of Proposed Rulemaking

Present FCC rules allow two classes of "permissive changes" for authorized transmitting equipment without requiring a new FCC identification number. Class I changes include hardware modifications that do not affect RF transmissions and no filing is required for such a modification. Class II changes include modifications other than frequency, modulation or power. These changes are authorized through a streamlined filing procedure. Up until now, the FCC's equipment authorization program has been totally hardware-based.

To accommodate the eventual introduction of SDR devices, the FCC is proposing to streamline the equipment authorization procedures for software-defined radios (SDR). Proposed is the introduction of another (Class III) permissive change, intended to cover software revisions which result in the change of frequency, power or modulation type. This will permit equipment manufacturers to market transceivers without the need to file a new equipment authorization application with the Commission.

Once a Class III permissive change has been granted for new software that affects the operating parameters, the software could be loaded into units in the field. The FCC's database for each authorized device would show the approved frequency range(s), power and modulation type(s) of the device. Additional frequency ranges or other new technical parameters would be added to the database as subsequent permissive changes are granted. The FCC said that the new proposed rules would not apply to amateur radio transmitters at this time.

It also defined in Part 2 of the rules that: "A software-defined radio is a radio that includes a transmitter in which the operating parameters of the transmitter, including the frequency range, modulation type or maximum radiated or conducted output power can be altered by making a change in software without making any hardware changes."

The FCC further proposed to permit electronic labeling so that a third party may modify a radio's technical parameters without having to return to the manufacturer for re-labeling.

The FCC said "We believe that these changes will facilitate the deployment and use of this new promising technology. The frequency and technology agility of software defined radios could increase the use of presently underutilized frequency bands."

The FCC's proposed rule changes covering SDR devices were issued in a *Notice of Proposed Rulemaking* (NPRM) last December. The comment period has now closed and the proceeding is awaiting further FCC review

IMAGING SCIENCE COMES TO MAJOR LEAGUE BASEBALL

"We will now have available the ideal tool to help us maintain strike zone accuracy and consistency. The introduction of technology as part of our training process will have a substantive impact on proper officiating of the game. QuesTec technology goes far beyond pretty pictures on TV, it is truly the intersection of science and baseball." Ralph Nelson, MLB V.P. for Umpiring

Military technology first developed to monitor planes and missiles in flight is now tracking baseballs on the way to home plate. The system, first called *SuperVision* was developed a decade ago by a tiny Deer Park, NY technology company called QuesTec.Com. The company's niche is that it develops real-time virtual three-dimensional replay content for mainstream professional sports, TV broadcasting, webcasting, interactive TV, video game development and wireless applications.

Earlier this year, the company was renamed QuesTec, Inc. and the imaging system is now called *PitchTrax*. The publicly held company which has never made a profit (QSTI in the OTC market) is classified as a "penny stock" in that its shares sell for around 15¢ a share. But, due to recent developments, that could well change.

PitchTrax uses two low-placed cameras to define a batter's strike zone and two super-fast cameras to follow the pitch, one located in the stands on the first-base line, the other on the third-base side. The cameras take multiple pictures of the ball along the way. The track points are measured precisely to locate the ball in space and time and through triangulation, the ball is pinpointed to within a two-fifths an inch. The system follows the ball as it leaves the pitcher's hand until it crosses the plate.

This information is used to measure the speed, placement, and curvature of the pitch along its entire path. A computer then constructs a three-dimensional graphic of the trajectory that can be rotated and examined from any angle. And "Yes," it clearly shows that a curveball really does curve!

There is also a "pitch-grouping feature" that allows TV networks to show the pitch-sequence to any hitter for a just-completed at bat. It also can display simultaneously the location of every pitch in numbered order thrown by a pitcher.

Another QuesTec development is the *HitTrax* system which measures the speed and direction of each hit, as well as the point of contact between the bat and ball in the hitting zone. It illustrates how some pitchers can induce batters to hit grounders or fly balls by pitch selection. Still another feature measures and displays the release time and speed of the ball when a catcher attempts to throw out runners trying to steal a base.

This season, Major League Baseball is committed to establishing and enforcing a consistent and accurate strike zone as it is described in the rules. The problem has been that each umpire seems to have their own interpretation of the strike zone. After years of watching the strike zone drift lower and get wider, the commissioner's office told umpires during the offseason that it wanted a standard and consistent strike zone.

The rules say a pitch should be called a strike if any part of a ball crosses over any part of home plate, and if the pitch is between the hollow of the knee and the midpoint between the belt buckle and shoulders.

To eliminate inconsistency among umpires, a new state-of-the-art pitch measurement upgrade has been developed and is being installed in six Major League ballparks to help umpires tell whether they're getting the hang of baseball's new strict definition of the higher strike zone.

A prototype was unveiled during the 2000 Arizona Fall League to a large group of Major League umpires and MLB officials and further tested during Spring training. It easily met the stringent accuracy requirements specified by the Office of the Commissioner.

The new system nicknamed UIS for *"Umpire Information System"* allows umpires to look at every pitch on a laptop computer after the game is over. UIS is actually an improvement of the *PitchTrax* technology licensed exclusively by QuesTec to Fox TV broadcasting for "in-game enhancement" and used by major league coaching staffs to pinpoint a pitch. The new version knows how to factor in the stance of the batter, whose crouch can raise or lower the strike zone, and how to ignore objects (such as birds or debris) that move through the field of view.

In February, QuesTec signed a five-year agreement with Major League baseball to install, operate, and maintain the new UIS proprietary motion measurement technology at major league parks. Baseball will pay the Company for each stadium installation and will pay additional fees to operate the system on a per game basis for the term of the agreement for an undisclosed fee.

But don't expect UIS to be consulted on the field like NFL's instant replay system. The ground rules call for it not to be used until after a game is over ...an obvious concession to the umpire's union.

At present, there are no plans to replace an umpire's judgment with that of QuesTec. For now, the objective is to assist the umpires in making more consistent calls. League officials will, however, also receive feedback on umpire performance in calling balls and strikes according to the rule book.

The first Umpire Information System has already been quietly installed at Boston's Fenway Park. According to Ralph Nelson, baseball's vice president of umpiring, UIS will be used only to help improve consistency among umpires, and not to evaluate them. In any event, the umpires are less than excited about the technology.

QuesTec also has other proprietary 3-D sports measurement products that include tennis, hockey, ski jumping and golf "ProView" broadcast enhancement.